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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,562	10/07/2004	Klaus Kneller	12604/10	4036
26646	7590	10/09/2007		
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER MCCLLOUD, RENATA D	
			ART UNIT 2837	PAPER NUMBER
			NOTIFICATION DATE 10/09/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@kenyon.com

# Office Action Summary

Application No.

10/510,562

Applicant(s)

KNELLER, KLAUS

Examiner

Renata McCloud

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 28-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39, 56 is/are allowed.
- 6) ☒ Claim(s) 28-38 and 40-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "feedback unit" and "second drive modules" (claim 54 refers to plural second drive modules) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Double Patenting***

2. Claims 46 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 45. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim

Art Unit: 2837

to object to the other as being a substantial duplicate of the allowed claim. See MPEP

§ 706.03(k).

Applicant is advised that should claim45 be found allowable, claim46 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

3. Claim 35 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 34. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 34 be found allowable, claim 35 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2837

5. Claim 40 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 40: The limitation "a capacitor having a charging current at least one of" is indefinite.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 28-35, 38, 40-43, 48-55 rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshita (US 5631813)

**Claims 28, 48, 53:** Ikeshita teaches in a first embodiment at least one supply module (1/5) providing an intermediate voltage; a drive circuit comprising at least one inverter (9) to drive at least one motor (3); a buffer (7) to store energy; a bus system (the lines connecting the circuit together). Ikeshita does not explicitly recite in the first embodiment, the buffer supplied with energy when the intermediate circuit voltage exceeds a first critical value and regenerative power of a first drive module exceeds the power of a second drive module, and feeds back energy to at least one drive module when a motive power of the at least one drive module exceeds the regenerative power. Ikeshita teaches in the background of the invention a circuit well known in the art comprising at least one supply module (1/5) providing an intermediate voltage; a drive circuit comprising at least one inverter (9) to drive at least one motor (3); a buffer (7) to store energy (col. 1:30-50, 2:22-33); a bus system (the lines connecting the circuit

Art Unit: 2837

together) the buffer (7) supplied with energy when the intermediate circuit voltage exceeds a first critical value and regenerative power of a first drive module exceeds the power of a second drive module, and feeds back energy to at least one drive module when a motive power of the at least one drive module exceeds the regenerative power (col. 2:34-3:32; 4:13-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Ikeshita et al to operate as taught by the background of the invention in order to brake the motor.

**Claims 29, 49:** the motor includes one of a synchronous and an asynchronous motor (col. 2:16-21, induction motor ).

**Claim 30:** the buffer (7) is supplied with energy for periods of time and releases the energy to the driver (9; col. 2:22-33).

**Claim 31:** the buffer (7) is supplied with energy during regenerative operation of the driver and releases the energy to the driver (9; col. 2:45-57).

**Claims 32 and 33:** the supply module (1/5) includes a rectifier (5).

**Claims 34, 35:** the supply module (1/5) includes a feedback unit (col. 2:45-57)

**Claim 38:** the buffer module includes a capacitor (7) having a capacitance greater than a sum of capacitance of all other capacitors to which the intermediate circuit voltage is applied (there are no other capacitors, so the sum would be 0).

**Claim 40:** the buffer (7) is connected to an output of the supply module (1/5), the buffer including a capacitor (7).

**Claim 41:** a buffer including an electrolytic capacitor (7).

**Claim 42:** Ikeshita teaches the limitations of claim 28. Referring to claim 42, Ikeshita does not explicitly recite that the buffer (7) and supply module (1/5) are in separate housings. It would have been obvious to one having ordinary skill in the art at the time the invention was

Art Unit: 2837

made to use separate housing since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. (see MPEP 2144.04 (5)(C)). Also a method of forming the device is not germane to the issue of patentability of the device itself. Therefore the limitation "manufactured separately" has not been given patentable weight.

**Claim 43:** Ikeshita teaches the limitations of claim 28, Referring to claim 43 Ikeshita does not explicitly teach the buffer (7) and supply module (1/5) are integrated and arranged in a single housing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the buffer and supply modules integrated since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art (see MPEP 2144.04(5)(B))

**Claim 50:** the buffer (7), driver (9), and supply module (1/5) are connected through to a bus (lines connecting the circuit together).

**Claim 51:** another module (18) connected to the bus system.

**Claim 52:** the buffer, driver, and supply modules are in the same interface (Fig. 1).

**Claims 54,55:** Ikeshita teaches the limitations of claim 53, referring to claims 54, 55 Ikeshita teaches when the intermediate circuit voltage exceeds a critical value flowing current through a braking resistor to dissipate energy when a regenerative power of a first drive module exceed the power of a second drive module ((col. 2:34-63). The do not teach a second critical value. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Ikeshita to have plural critical values since it has been held that mere duplication involves only routine skill in the art (see MPEP 2144.04 (VI))

Art Unit: 2837

8. Claims 36,37, 44-47 rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshita (US 5631813) in view of Takagi et al (US 6367273)

**Claim 36, 44:** Ikeshita teaches the limitations of claims 28, 43. Referring to claims 36, 44, Ikeshita teaches the buffer/supply module includes a switch (8) to allow passage of and block current induced by the intermediate circuit voltage (col.1:30-39, 2:23-33). They do not teach an electronic circuit breaker. Takagi et al teach a buffer/supply module having an electronic circuit breaker (27) allowing passing and blocking of current (col. 6:15-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Ikeshita to have an electronic circuit breaker as taught by Takagi et al in order to control the current to the motor.

**Claim 37,45,46:** Ikeshita and Takagi et al teach the limitations of claims 36, 44. Referring to claims 37, 45, 46, Ikeshita teaches a switch (8) is connected to an intermediate voltage measuring device (71). They do not teach a driver for the breaker. Takagi et al teach a circuit breaker (27) having a driver (205), the breaker connected to a device (28) measuring an intermediate current (col. 39-42).

**Claim 47:** Ikeshita teaches the limitations of claim 28. Referring to claim 47, Ikeshita teaches the buffer includes a switch (8) and a circuit connected to a device measuring voltage (22), the switch influencing current supply to a braking resistor (6). Ikeshita does not teach the buffer includes an electronic circuit breaker and drive circuit connected to a voltage measuring circuit the circuit breaker configured to influence supply to a braking resistor. Takagi et al teach the buffer (5) includes a circuit breaker (27) and drive circuit (205) connected to a voltage measuring circuit (50) the circuit breaker (27) configured to influence supply to a braking resistor (111). It would have been obvious to one having ordinary skill in the art at the time the invention



Art Unit: 2837

was made to modify the apparatus taught by Ikeshita to include the circuit taught by Takagi et al an order to control the breaking of the motor.

***Allowable Subject Matter***

9. Claims 39 and 56 are allowed.

***Response to Arguments***

10. Applicant's arguments with respect to claims 28-56 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

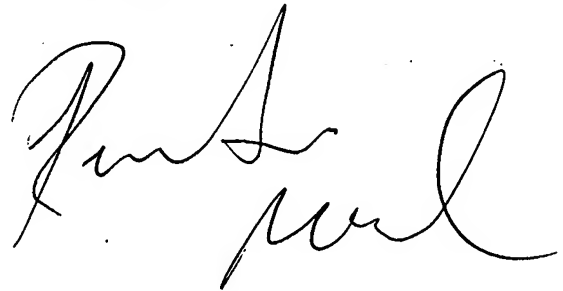
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2837

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Renata McCloud  
Examiner  
Art Unit 2837

rdm

A handwritten signature in black ink, appearing to read 'Renata McCloud', with a stylized flourish underneath.